

Appln. No. 10/662,142
Amdt. Dated Friday, September 07, 2007
Reply to the Office action of March 7, 2007

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Amendments to the Claims

Kindly amend claims 1 and 3 – 10 and cancel claims 2 and 11 – 18 without prejudice as indicated in the listing below. This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A modular robotic system comprising:

a rack and vial storage system for storing therein a plurality of racks and vials;

a consumables storage system for storing materials;

a first robotic arm for transferring said vials from a first location to a second location, or for transferring said racks from a said first location to a said second location;

a dispensing, pipetting, or characterization station or solid dispensing station for dispensing active ingredients, water, or additives to said vials to yield a formulation, wherein said first robotic arm transfers materials from said consumables storage system to said dispensing, pipetting, or characterization station or to said solid dispensing station;

a mixing or homogenizing station for mixing or homogenizing said formulation to yield a mixture;

and

a phase stability station for phase analysis of said mixture;

optionally a liquids, suspensions, gels or meltables station and

optionally a capping, decapping, bar-code reading or cap-supply station;

wherein said first location is:

said rack and vial storage system,

said dispensing, pipetting or characterization station,

said mixing or homogenizing station, or

said phase stability station; and

wherein said second location is:

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said rack and vial storage system,

said dispensing, pipetting or characterization station,

said mixing station, or

said phase stability station; and

a flexible second robotic arm, wherein said flexible second robotic arm transfers said racks or said vials from said first robotic arm to a third location upon said modular robotic system where said third location is

said capping or decapping or bar code reading or cap supply station,

said rack and vial storage system,

said dispensing, pipetting or characterization station,

said mixing or homogenizing station,

said phase stability station,

said solid dispensing station or

said liquids, suspensions, gels or meltables station.

2. (Cancelled)

3. (Currently amended) The modular robotic system of claim 2 1, further comprising a comminution station for grinding solid particles, wherein said solid particles are active ingredients or additives and wherein said flexible second robotic arm transfers said racks from said first robotic arm to said comminution station.

4. (Currently amended) The modular robotic system of claim 1,
wherein said racks each holds up to six said vials, wherein said racks are ~~is~~ each bar coded and;
wherein ~~each~~ said vials are ~~is~~ each bar coded;

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wherein said materials ~~is~~ are selected from the group consisting of said vials, pipette tips, said active ingredients, and said additives; and

wherein said dispensing, pipetting, or characterization station further comprises:

a waste station, wherein fluid ~~can~~ may be pumped to waste; and

a tool head, wherein said tool head is fitted with at least one item selected from the group of items consisting of: rack gripper, plate gripper, vial gripper, filter gripper, cap gripper, pipettor, and dispense needle.

5. (Currently amended) A modular robotic system comprising:

a rack and vial storage system for storing therein a plurality of racks and vials;

a consumables storage system for storing materials;

a first robotic arm for transferring said vials from a first location to a second location, or for transferring said racks from a said first location to a said second location;

a dispensing, pipetting, or characterization station for dispensing active ingredients, water, or additives to said vials;

a solid dispensing station for dispensing solids by weight into said vials, wherein said solids are active ingredients or additives;

a liquids, suspensions, gels, or meltables station for dispensing high viscosity fluids, gels, pastes, or meltables, wherein said high viscosity fluids, said gels, pastes, ~~or~~ and meltables are active ingredients or additives;

wherein said combination of said active ingredients, water, and additives from said dispensing, pipetting, or characterization station, said solid dispensing station, or said liquids, suspensions, gels, or meltables station yields a formulation;

a mixing or homogenizing station for mixing or homogenizing said formulation to yield a mixture;

and

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a phase stability station for phase analysis of said mixture;

a flexible robotic arm station, ~~wherein said~~ including a flexible second robotic arm that transfers said
racks from said first robotic arm to a third location upon said modular robotic system; and

a comminution station for grinding solid particles;

wherein said first location is:

said rack and vial storage system;

said dispensing, pipetting or characterization station;

said mixing or homogenizing station;

said phase stability station;

said solid dispensing station;

said liquids, suspensions, gels, or meltables station; or

said ~~comminuter~~ comminution station;

wherein said second location is:

said rack and vial storage system;

said dispensing, pipetting or characterization station;

said mixing or homogenizing station;

said phase stability station;

said solid dispensing station;

said liquids, suspensions, gels, or meltables station;

said flexible arm station; or

said ~~comminuter~~ comminution station; and

wherein said third location is:

said rack and vial storage system;

said dispensing, pipetting or characterization station;

said mixing station;

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said phase stability station;

said solid dispensing station;

said liquids, suspensions, gels, or meltables station; or

said comminuter comminution station.

6. (Currently amended) The modular robotic system of claim 5,

wherein said racks each holds up to six said vials, wherein said racks are each is bar coded and,

wherein ~~each~~ said vials are each is bar coded;

wherein said materials are is selected from the group consisting of said vials, pipette tips, said active ingredients, and said additives; and

wherein said dispensing, pipetting, or characterization station further comprises:

a waste station, wherein fluid ~~can~~ may be pumped to waste;

a tool head, wherein said tool head is fitted with at least one item selected from the group of items consisting of: rack gripper, plate gripper, vial gripper, filter gripper, cap gripper, pipettor, and dispense needle; and

a deck; wherein said deck is mounted with at least one device selected from the group of devices consisting of: bar code reader, decapper, cap source, orbital shaker, tank mix testing unit, injection port, dilution port, filtration device, particle size detector, viscometer, ~~detector~~, wash waste station, bead collector, ~~ion~~, photography system, trash collection chute, and particle microscopy system.

7. (Currently amended) The modular robotic system of claim 5,

wherein ~~each~~ said rack ~~is~~ includes an identifying ~~by~~ bar code; and ~~wherein that is read by said~~ first robotic arm ~~reads said bar code~~.

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8. (Currently amended) The modular robotic system of claim 6,

wherein said liquids, suspensions, gels or meltables station further comprises:

a second tool head, wherein said second tool head is fitted with at least one item selected from the group of items consisting of: rack gripper, plate gripper, vial gripper, gel dispenser gripper, cap gripper, pipettor, and vacuum canula; and

a second deck; wherein said second deck is mounted with at least one device selected from the group of devices consisting of: movable gel dispenser, comminuting bead source, bar code reader, decapper, orbital shaker, heated block, mass balance and, trash collection chute.

9. (Currently amended) The modular robotic system of claim 8, further comprising:

a second dispensing, pipetting and or characterization station, wherein said second dispensing, pipetting and or characterization station further comprises a third deck and a third tool head,

wherein said third tool head is fitted with at least one item selected from the group of items consisting of: rack gripper, plate gripper, vial gripper, gel dispenser gripper, cap gripper, pipettor, and dispense needle; and wherein said third deck is mounted with at least one device selected from the group of devices consisting of: bar code reader, capper, decapper, caps source, balance, injection port, drain wash waste station, gel dispenseer, orbital shaker, and heated block.

10. (Currently amended) The modular robotic system of claim 9, further comprising:

an off deck, wherein said off deck is mounted with at least one device selected from the list of devices consisting of: second particle size detector, flush system, second viscometer, and second particle microscopy system.

11 – 18 (Cancelled).